VISION ZERO PARTNERSHIP
Delivering Safer Roads for Cambridgeshire & Peterborough

Speed Management Strategy

Version Control	Issue Date	Author	Reviewed by
DRAFT for review	30/11/21	Matt Staton	Working Group
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Vision

No human being should be killed or seriously injured as the result of a road collision.

Summary

This document is intended as a high-level summary of the principles of speed management alongside a practical guide for officers, politicians, and communities to provide consistency in dealing with common speed-related issues.

Part 1 outlines three components that influence speed management: safe speed, credible speed, and posted speed. Ideally all three will be aligned, however this is not always the case and it is these common issues that the speed management strategy focuses on.

Part 2 outlines three areas of focus, which relate to the most common speed-related issues:

1. Where the Safe Speed is lower than the Credible and Posted Speed
2. Where the Credible Speed is higher than the Safe and Posted Speed
3. Where the Posted Speed is higher than the Safe and Credible Speed

Introduction

Speed determines the severity of crashes and injuries. It also affects the potential to avoid a crash, because higher speeds reduce drivers' capacity to stop in time, reduce manoeuvrability in evading a problem, make it harder to negotiate curves or corners, and cause others to misjudge the timing of approach vehicles. Even small increases in speed result in significant increases in risk, as shown in XX which is based on Nilsson's Power Model[1]. Speed management is recognised as a key mechanism for road safety in our systems approach.

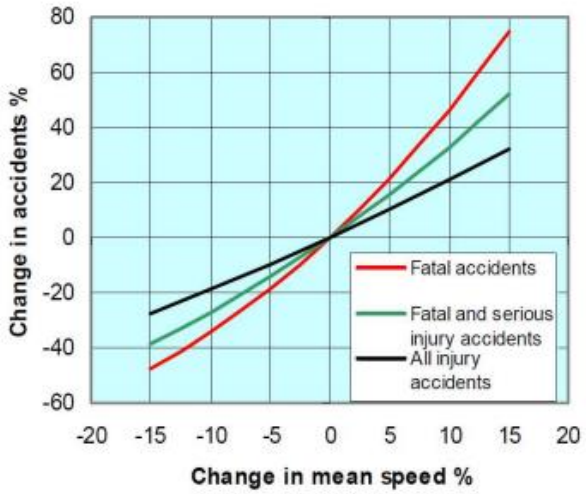


Figure 1 - Nilsson's Power Model showing % change in accidents against % change in mean speed [Source: Nilsson (2004)]

Speeding was highlighted by Cambridgeshire and Peterborough residents as the second highest road safety priority (closely behind road maintenance) in our 2020 survey as part of the Vision Zero Strategy development. Speeding was also recognised as a key community priority in the Cambridgeshire and Peterborough Police and Crime Plan consultation in 2021.

This strategy is presented in two parts:

- PART 1: SPEED MANAGEMENT PRINCIPLES outlines the components that influence the speed of traffic and how these link with infrastructure policy
- PART 2: AREAS OF FOCUS outlines areas of focus for intervention and the processes that should be followed in each case

[1] Nilsson, G. (2004). Traffic Safety Dimensions and the Power Model to Describe the Effect of Speed on Safety. Traffic Engineering.

PART 1: SPEED MANGEMENT PRINCIPLES

Speed management for any given road needs to consider the following three aspects:

Safe Speed

Safe Speed is the speed below which possible conflicts between road users should not result in death or serious injury (provided good vehicle and infrastructure safety systems are in place). There are many factors which influence the safe speed of a road, including provision for vulnerable road users, likely conflict types, proximity of roadside hazards, road condition, and visibility. In its simplest form, based on work by Tingvall & Howarth (1999), this is shown in Table 1.

Table 1 - Safe speeds for different conflict types (adapted from Tingvall and Haworth, 1999)

Conflict Type	**Safe Speed***
Conflicts between cars and unprotected road users	20mph
Cross conflicts between cars	30mph
Frontal conflicts between cars	45mph
Where frontal or lateral conflicts with other road users are impossible	≥60mph

*speeds converted from km/h to nearest 5 mph

Credible Speed

Credible Speed is the speed road users think they should travel based on the road environment. This will be related to how safe road users feel and how appropriate they feel the posted speed limit is in comparison. This will normally determine the actual speed travelled and is linked to compliance.

It is recognised that the credible speed will differ for each individual and may also differ depending on the mode of travel they are using.

For this strategy the credible speed will be taken as a measurement of free-flow speeds over a minimum of seven days. The mean (average) speed recorded will provide a good indication of the overall credible speed, while the 85th percentile speeds can be used to indicate the range of speed choice and the extent of any speeding issues. It is recognised that maximum speeds recorded can be alarming and indicate very specific behavioural issues. However, in relation to speed policy the mean and 85th percentile speeds are more useful measures.

In ideal circumstances the mean and 85th percentile speeds will be very close together, indicating most traffic is travelling at the same speed in free-flow conditions and the environment encourages people to drive at that speed.

Posted Speed

Posted Speed is the speed limit for the road based on its function. In most cases this will reflect national and local policy. The main policy for setting local speed limits is outlined by the Department for Transport[2]. In summary the following guidance is issued for urban and rural roads respectively:

Urban roads

Speed limit (mph)	**Where limit should apply**
20 (including 20 mph zone)	In streets that are primarily residential and in other town or city streets where pedestrian and cyclist movements are high, such as around schools, shops, markets, playgrounds and other areas, where motor vehicle movement is not the primary function.
30	In other built-up areas (where motor vehicle movement is deemed more important), with development on both sides of the road.
40	On higher quality suburban roads or those on the outskirts of urban areas where there is little development, with few cyclists, pedestrians or equestrians. On roads with good width and layout, parking and waiting restrictions in operation, and buildings set back from the road. On roads that, wherever possible, cater for the needs of non-motorised users through segregation of road space, and have adequate footways and crossing places.
50	On dual carriageway ring or radial routes or bypasses that have become partially built up, with little or no roadside development.

Rural roads

Speed limit (mph)	**Where limit should apply**
60	Recommended for most high quality strategic A and B roads with few bends, junctions or accesses.
50	Should be considered for lower quality A and B roads that may have a relatively high number of bends, junctions or accesses. Can also be considered where mean speeds are below 50 mph, so lower limit does not interfere with traffic flow.
40	Should be considered where there are many bends, junctions or accesses, substantial development, a strong environmental or landscape reason, or where there are considerable numbers of vulnerable road users.

Dealing with issues

Ideally the safe, credible, and posted speeds will be the same, however the speed management strategy needs to deal with situations where these three are not aligned through a consistent approach, which in turn will support credibility of the speed limits. The main areas of focus for this are outlined in Part 2.

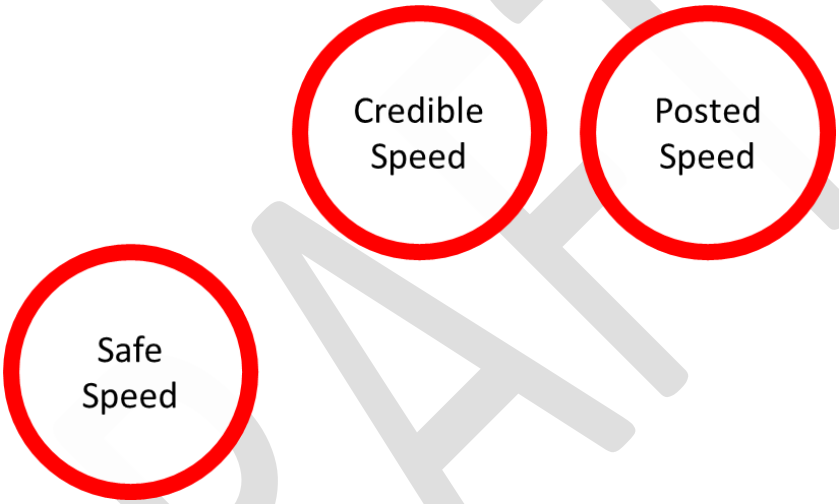
[2] https://www.gov.uk/government/publications/setting-local-speed-limits

PART 2: AREAS OF FOCUS

The intention of the Speed Management Strategy is not to replace or directly change the current Highway Authority policies, it is to outline what actions can be considered if safe, credible, and posted speed limits do not align, providing clarity and consistency for communities, officers, and politicians in terms of the steps to take.

Three broad areas of focus have been identified and are outlined on the following pages. Each includes a description of the issue and a flowchart to assess and direct potential intervention.

Area of Focus 1: Safe Speed lower than Credible and Posted Speed



Description

Probably the most common issue encountered, in this scenario the safe speed for the types of conflict on a road is lower than the current posted limit and the speed currently observed and credible to most drivers. The issue here is not necessarily speeding, but that the current speed allowed and followed by most drivers is considered too fast for the road.

Example

One example would be town 'high streets' with lots of pedestrians crossing and cyclists using the road as well as vehicles. The safe speed is expected to be 20mph based on the conflicts with vulnerable road users, but speed limit is likely to be the normal restricted limit of 30mph.

Action

To address these issues it is likely a change to the infrastructure is required to either:

- improve safety, increasing the safe speed; or
- change the environment to encourage compliance with a lower speed limit.

Addressing these issues is likely to be an incremental process, particularly if the aim is to reduce the speed limit in line with the safe speed. Depending on the initial approach this may lead on to one of the other areas of focus.

Who do I contact?

Changes to the infrastructure need to be carried out by, or with the approval of, the Local Highway Authority (Cambridgeshire County Council or Peterborough City Council). You can contact the Councils for initial advice using the details below but before you do it is worth reading the rest of this guide so you know what to expect:

Cambridgeshire – road.safety@cambridgeshire.gov.uk

Peterborough – ltp@peterborough.gov.uk

STEP 1: What is the problem? – This step is about collecting the evidence of the problem, this could include collision data, resident complaints, local concerns or other research or consultation undertaken by the community. To get an understanding of the current speed seven days' data from an automatic traffic counting device is needed. If this isn't available at the outset it will need to be collected later, but data from Speedwatch or MVAS/SID devices (if available) is useful as a guide.

STEP 2: What do we want to achieve? – This step is about identifying if the desired outcome is to reduce speeds to the safe speed for the current road, e.g. traffic calming measures, or to improve the environment to suit the current speed, e.g. by installing a cycle path? It is best this is a broad idea at this stage and not too specific.

STEP 3: Funding – For community-led schemes at least an element of funding will be required. This ranges from 15-100% of the total scheme costs depending on the route chosen/available.

Suggested infrastructure measures, including indicative costs, are outlined on the 'Improving the local highway' pages on Cambridgeshire County Council's website and the information also includes funding routes for Cambridgeshire. The Vision Zero website has a list of all current funding routes.

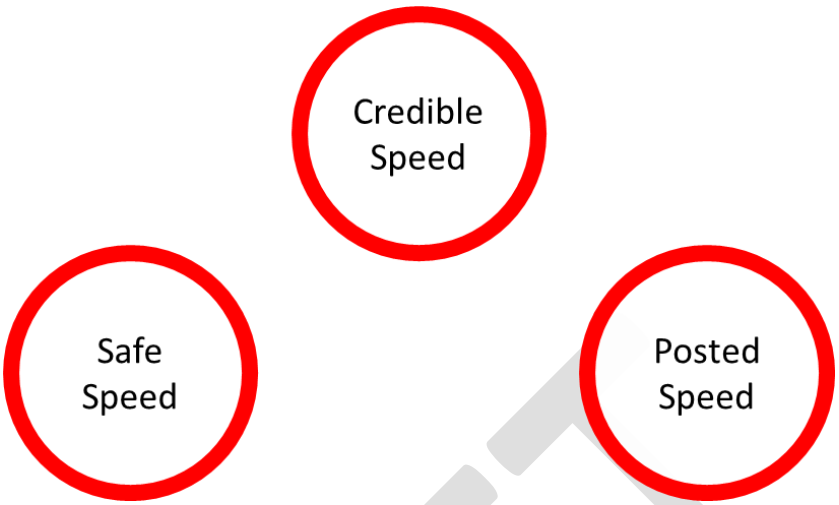
STEP 4: Make an application – If you know the route you want to apply to, use the relevant form on the Council's website, or contact your local Council using the details above. Please bear in mind some processes will have set application windows as part of a competitive process, e.g. LHI scheme. When you apply you should be informed by officers when you can expect to hear from them.

STEP 5: Feasibility – This stage is very important and involves an officer assessing your proposal and discussing what can and can't be done within the financial, legal, physical and time constraints they (and you) are working with.

STEP 6: Delivery – Once a scheme is agreed with you it will be included in a future programme of work and you should be informed by officers what timescales to expect for delivery. In the case of schemes aimed at speed reduction it is important local road users understand why the scheme is being introduced so local publicity is helpful. Most schemes also need formal local consultation.

STEP 7: Did it work? – Did the scheme achieve the outcomes set at the start? Have other problems been introduced? If either the posted or credible speeds need further reduction then see the other areas of focus.

Area of Focus 2: Credible Speed higher than Safe and Posted Speed



Description

In this scenario, the speed currently observed and credible to most drivers is above both the safe speed for the types of conflict on a road and the current posted limit. The issue is speeding behaviour and is sometimes because the road environment looks and feels more like a faster road.

Example

This issue is often the case where roads enter towns or villages and the speed limit has reduced from a higher limit outside the town. It may be that the roads are wider than in the town/village centre and houses are set further back from the road or in larger plots of land.

Action

To address this issue it is likely a combination of the following is required:

- engagement with local road users to support the safe speed e.g. Community Speedwatch
- change the environment to encourage compliance with the speed limit
- visible enforcement

Who do I contact?

Initial contact should be made with the local Police for either Community Speedwatch to be set up or the Special Constabulary Safer Speeds team to undertake speed engagement activity. This should be undertaken before or alongside any further measures. Please send your enquiry to:

Community Speedwatch – speedwatch@cambs.police.uk

Safer Speeds Team – SaferSpeeds@cambs.police.uk

STEP 1: Community Speedwatch – The first step is about visible action within the community through the Police's Community Speedwatch scheme. A few volunteers from the local community are trained to run the scheme and can operate as often or as little as they like (usually a minimum of one session per month). In addition, the Special Constabulary Safer Speeds team can undertake engagement and education activity. This step is about engaging and educating the road users and local community about the need for speed reduction and will also collect some evidence that can support further action.

STEP 2: Changes to the environment – Changes to the infrastructure need to be carried out by, or with the approval of, the Local Highway Authority (Cambridgeshire County Council or Peterborough City Council). You can contact the Councils for initial advice using the details below but before you do it is worth reading the rest of this guide so you know what to expect:

Cambridgeshire – road.safety@cambridgeshire.gov.uk

Peterborough – ltp@peterborough.gov.uk

If exploring changes to the environment it is suggested the following are considered in order:

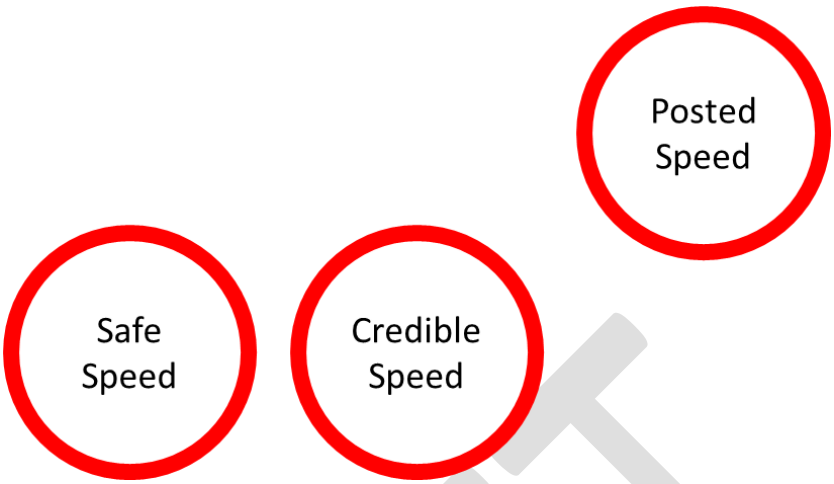
a. Speed warning boards
b. Mobile Vehicle Activated Signs (MVAS) or Speed Indicating Devices (SIDs)
c. Gateway features (if applicable)
d. Psychological traffic calming
e. Physical traffic calming

The way communities can access these changes is outlined in Area of Focus 1.

STEP 3: Visible enforcement – While focused on education and advice, the Safer Speeds Team will undertake enforcement activity where required. Additional enforcement activity from Roads Policing is usually targeted at locations where there has been a history of road traffic collisions resulting in injury.

STEP 4: Safety Cameras – Where speed is identified as a factor in serious or fatal collisions at a location or on a route, enforcement cameras may be considered a suitable alternative to other infrastructure changes. There is set guidance for setting up new speed camera locations and these can be either mobile, fixed or average speed cameras. The national guidance is available on the Department for Transport website. Any new camera locations are discussed jointly between the Local Highway Authority and the Police through the Vision Zero Partnership, as the Local Highway Authority are responsible for the infrastructure (the equipment at the roadside) and the Police are responsible for the enforcement activity and processing any offences.

Area of Focus 3: Posted Speed higher than Credible and Safe Speed



Description

In this scenario, the safe speed for the types of conflict on a road and the speed currently observed and credible to most drivers are matched but the posted speed is higher. This is commonly the case in residential areas where average speeds are close to 20mph.

Example

On residential roads where average speeds are close to 20mph but the posted speed is the 30mph limit for restricted roads.

Action

To address this issue the posted speed limit needs to be reduced, however, it might be considered that if most people are already travelling at the safe speed for the road then action may not be necessary unless the range of speeds is quite wide, or a number of roads can be combined into an area-wide approach.

Who do I contact?

Changes to the infrastructure need to be carried out by, or with the approval of, the Local Highway Authority (Cambridgeshire County Council or Peterborough City Council). You can contact the Councils for initial advice using the details below but before you do it is worth reading the rest of this guide so you know what to expect:

Cambridgeshire – road.safety@cambridgeshire.gov.uk

Peterborough – ltp@peterborough.gov.uk

STEP 1: Speed data – To get an understanding of the current speed, seven days' data from an automatic traffic counting device is needed. This will help identify if supporting infrastructure changes would be beneficial. For area-wide schemes a representative sample is required.

STEP 2: Funding – For community-led schemes at least an element of funding will be required. This ranges from 15-100% of the total scheme costs depending on the route chosen.

Suggested infrastructure measures, including indicative costs, are outlined on the 'Improving the local highway' pages on Cambridgeshire County Council's website and the information also includes funding routes for Cambridgeshire. The Vision Zero website has a list of all current funding routes.

STEP 3: Make an application – If you know the route you want to apply to, use the relevant form on the Council's website, or contact your local Council using the details above. Please bear in mind some processes will have set application windows as part of a competitive process, e.g. LHI scheme. When you apply you should be informed by officers when you can expect to hear from them.

STEP 4: Feasibility – This stage is very important and involves an officer assessing your proposal and discussing what can and can't be done within the financial, legal, physical and time constraints they (and you) are working with.

STEP 5: Delivery – Once a scheme is agreed with you it will progress to delivery. In the case of schemes aimed at speed reduction it is important local road users understand why the scheme is being introduced so local publicity is helpful. Some schemes also need formal local consultation.

STEP 6: Did it work? – Did the scheme achieve the outcomes set at the start? If the credible speeds need further reduction then see Area of Focus 2.